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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/028,455

12/19/2001

John W. Mates

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7590

03/01/2004

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EXAMINER

LUU, THANH X

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 03/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/028,455

Applicant(s)

MATES, JOHN W.

Examiner

Thanh X Luu

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2003.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-22 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

This Office Action is in response to amendments and remarks filed December 31, 2003. Claims 1-22 are currently pending.

#### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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~~(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.~~

2. Claims 1, 2, 10, 11, 15, 17, 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Clarke (U.S. Patent 6,057,538).

Regarding claims 1, 2, 10, 11, 15, 17, 19 and 20, Clarke discloses (see Figure 7) an apparatus and method, comprising: a plurality of photodetector elements (22) disposed on a semiconductor substrate (20); and a compound light directing member (30) including a plurality of light directing elements (32) in a single layer, at least some of the light directing elements to individually direct light energy from one or more sources onto one or more of the photodetector elements, the compound light directing member being the primary mechanism to direct light energy into the one or more of the photodetector elements, outputs of the photodetector elements being electrically coupled such that an image associated with one or more sources may be synthesized at output circuitry, or to integrate outputs of the photodetector elements to produce an image corresponding to the source. Clarke also discloses (see Figure 7) the compound light directing member comprises a lenslet array (30) and the light directing elements

each comprise a lenslet (32). Since the apparatus images, the elements of the apparatus together provide a substantially planar, artificial, compound eye.

3. Claims 1, 3, 4, 10, 12, 15, 16, 19 and 21, as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Immega et al. (U.S. Patent 5,726,443).

Regarding claims 1, 3, 4, 10, 12, 15, 16, 19 and 21, Immega et al. disclose (see Figure 12) an apparatus and method, comprising: a plurality of photodetector elements (1) disposed on a semiconductor substrate (2); and a compound light directing member (3) including a plurality of light directing elements (22, 23) in a single layer, at least some of the light directing elements to individually direct light energy from one or more sources onto one or more of the photodetector elements, the compound light directing member being the primary mechanism to direct light energy into the one or more of the photodetector elements, outputs of the photodetector elements being electrically coupled such that an image associated with one or more sources may be synthesized at output circuitry, or to integrate outputs of the photodetector elements to produce an image corresponding to the source. Immega et al. also disclose (see Figure 12) the compound light directing member comprises light pipe bundle (3) and the light directing elements each comprise a light pipe (22 or 23). Immega et al. further disclose (see Figure 12) a first and second light pipe (22 and 23) receiving light from a first and second direction as claimed. Since the apparatus images, the elements of the apparatus together provide a substantially planar, artificial, compound eye.

4. Claims 1, 5-10, 13-16, 18, 19 and 22, as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by the publication of Hoshino et al. ("A one-chip

scanning retina with an integrated micro-mechanical scanning actuator for a compound eye visual sensor", published January 2000).

Regarding claims 1, 5-10, 13-16, 18, 19 and 22, Hoshino et al. disclose (see Figure 2) an apparatus and method, comprising: a plurality of photodetector elements (photodiodes) disposed on a semiconductor substrate; and a compound light directing member (scanning slit array) including a plurality of light directing elements (slits) in a single layer, at least some of the light directing elements to individually direct light energy from one or more sources onto one or more of the photodetector elements, the compound light directing member being the primary mechanism to direct light energy into the one or more of the photodetector elements, outputs of the photodetector elements being electrically coupled such that an image associated with one or more sources may be synthesized at output circuitry, or to integrate outputs of the photodetector elements to produce an image corresponding to the source. Hoshino et al. also disclose (see Figure 2) the light directing member comprises a plurality of micromachined light directing elements (scanning slit array), each including an opening (slit), further comprising, micromachine control circuitry to control an orientation of at least some of the micromachined light directing elements relative to a surface of the substrate, the orientation of each of the light directing elements to determine the light energy received by an underlying photodetector element.

### ***Response to Arguments***

5. Applicant's arguments filed December 31, 2003 have been fully considered but they are not persuasive.

Regarding claims 1, 2, 10, 11, 19 and 20, Applicant asserts that Clarke (in Figure 2) does not disclose light directing elements in a single layer. Examiner disagrees. The rejection is based on Figure 7 of Clarke, which shows a single layer of light directing elements (32).

Applicant's arguments with respect to the other claims have been considered but are moot in view of the new ground(s) of rejection.

Thus, as set forth above, this rejection is proper.

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### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is (571) 272-

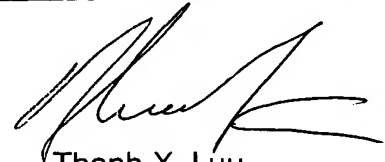
2441. The examiner can normally be reached on Monday-Friday from 6:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta, can be reached on (571) 272-2444. The fax phone number for the organization where the application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

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txl  
February 9, 2004



Thanh X. Luu  
Primary Examiner